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Claims

1. A method of carrying an application level message encapsulated inside a signaling message of an access
5 network, said method comprising the steps of:
 receiving (1) an application level message from a sender application process to an access network signaling process;
 adapting (3) said application level message and
10 encapsulating it in a signaling message of an access network; and
 delivering (1, 3, 4) said encapsulated application level message to a receiver application process by transmitting said signaling message, wherein said
15 encapsulated application level message is transparent to the means of said access network transmitting said signaling message.
2. A method according to claim 1, wherein said sender
20 application process is performed in a mobile terminal being attached to said access network.
3. A method according to claim 1, wherein said sender
application process is performed in a server providing a
25 corresponding application.
4. A method according to any one of claims 1 to 3,
wherein said application level message includes an indication under which conditions the signaling message
30 should be delivered.
5. A method according to claim 4, wherein said indication comprises an address of the application receiver process being one of the group comprising a logical name, an IP
35 address, and a port number.

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6. A method according to claim 4 or 5, wherein said indication comprises another indication whether said signaling message should be delivered even if the
5 Quality-of-Service changes.

7. A method according to claim 1, wherein said method is implemented in a call establishment procedure for Voice over the Internet Protocol (VoIP).
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8. A method according to claim 1, wherein said encapsulated application level message is included in an activation request within a Packet Data Protocol (PDP) context signaling.
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9. A method according to claim 3, wherein said application server is one of the group of proxy call state control function means (P-CSCF), push proxy server means, and instant message server means.
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10. A method according to claim 8, wherein said packet data protocol (PDP) context signaling is embedded into one of the group of a Session Initiation Protocol (SIP) signaling, a Resource Reservation Protocol (RSVP) signaling, and a Point to Point Protocol (PPP) signaling.
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11. A method according to claim 8, wherein said encapsulated application level message includes a complete Session Initiation Protocol (SIP) message.
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12. A method according to claim 11, wherein a Gateway GPRS Support Node (GGSN) creates a Internet Protocol/User Datagram Protocol header and forwards said complete Session Initiation Protocol (SIP) message to a Session
35 Initiation Protocol (SIP) proxy means.

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13. A method according to claim 12, wherein said header is created by using information sent in an optional application level message information element.

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14. A method according to claim 12, wherein said header is created by using information coming from said Packet Data Protocol (PDP) context signaling.

10 15. A method according to claim 12, wherein said header is created by using information coming from a configuration process.

15 16. A method according to claim 8, wherein
said encapsulated application level message indicates that a Gateway GPRS Support Node (GGSN) shall send a context response message only when a response of said receiver application process is received, as a reaction to which said Gateway GPRS Support Node (GGSN)
20 starts a timer to wait for answer; and wherein
a reply before the expiry of said timer is copied as a new encapsulated application level message in said context response message, and in case of no reply before the expiry of said timer an indication that said receiver
25 application process does not answer is copied as a new encapsulated application level message in said context response message.

17. A method according to claim 8, wherein
30 said encapsulated application level message indicates that a Gateway GPRS Support Node (GGSN) shall send a context response message immediately, as a reaction to which said Gateway GPRS Support Node (GGSN) sends a context response message immediately, whereas a
35 response of said receiver application process is returned

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to said sender application process in a non-encapsulated manner as normal traffic.

18. A system adapted to perform a transmission of an
5 application level message encapsulated inside a signaling message of an access network, comprising:

receiving means adapted to receive an application level message from a sender application process to an access network signaling process;

10 adapting means for encapsulating said application level message in a signaling message of an access network; and

delivering means adapted to deliver said encapsulated application level message to a receiver
15 application processing means.

19. A system according to claim 18, further comprising a server adapted to perform said sender application process.

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20. A system according to claim 19, wherein said server is one of the group of proxy call state control function means (P-CSCF), push proxy server means, and instant message server means.

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